

Configuring Crestron Fusion[®] Software with Google Calendar[™] Application

Enterprise Management Platform

Integration Guide Crestron Electronics, Inc.

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Configuring Crestron Fusion Software with Google Calendar Application: Enterprise Management Platform

Overview

Crestron[®] software developers have integrated Crestron Fusion with Google Calendar scheduling software. This document provides the necessary information to configure the Google Calendar API and set up Crestron Fusion so that it can access the Google Calendar API.

Initial Setup

Set up a domain on the Google® API website with the following:

- Administrator Account
- User Accounts Room Resources (Refer to "Appendix A: Creating Room Resources" on page 25 for setup instructions)

Configure the Google Calendar API

For Crestron Fusion to exchange data with a Google calendar the user needs to activate the Google Calendar API and configure the security.

Activate the Google Calendar API for the Domain

This section provides information on how to activate the Google Calendar API for the domain.

- Using the Google Chrome[™] or Firefox[®] browser, navigate to the following URL: <u>https://console.developers.google.com/project</u>.
- 2. Log in using an administrator account. When you have successfully logged in, the **Google Developers Console** page opens.

Google Developers Console Page without Loaded Project



3. Click the **Select a Project** drop-down list and select the API project that will be used for the Google Calendar integration with Crestron Fusion.

Project Loaded

Select	
= Search projects and folders	ē +
Recent All	
Name	ID
✓ S● FusionIntegration	fusionintegration-180412

Create a New Project

Library		
Select		
\Xi Search projects and folders		Create project +
Recent All		
Name	ID	
Ndme	עו	

4. If no projects are listed in the drop-down list, click **Create project** to open the **New Project** form to add a new project.

New Project Form

≡ Google APIs	
New Project	
You have 11 projects remaining in your quota. Learn more. Project name FusionIntegration	
Your project ID will be fusionintegration-188214 @ Edit	
Create	

- 5. Enter a **Project name** and click **Create**.
- An API project needs to be loaded into the Google Developers Console page. When the project is loaded, the project name is displayed in the Project field and in the Select a Project drop-down list.

Console Dashboard After Project Selection

≡ Google APIs 🕻 F	SusionIntegration 🔻			c	2
← API Library					
7. 4	Welcome to t The new API Library has Tell us what you think	the new API L s better documentation, r	brary nore links, and a smarter sear	ch experience.	·•
•	Q Search for	APIs & services			
Filter by	Maps				
CATEGORY Advertising (15) Analytics (2) Big data (10) Blog & CMS (1) Compute (8) CRM (1)	Google Maps And Google Maps for your native	Iroid API G G Android app. M	oogle Maps SDK for iOS oogle laps for your native iOS app.	Goog Goog Maps	gle Maps JavaScript API le s for your website

Select a Project Drop-Down List

Select		
፹ Search projects and folders		• +
Recent All		
Name	ID	ר
✓ S FusionIntegration	fusionintegration-180412	

- 7. If a project is not displayed, click the **Search projects and folders** drop-down list and select the project name.
- 8. Click the link in the upper left-hand corner to activate the Google Calendar API: <u>https://console.developers.google.com/apis/library</u> and open the Google Developers console.

Google Developers Console Menu

=	Google APIs Select a proje	a - Q
API	APIs & services	Library
٢	Dashboard	Google APIs
ш	Library	
~	Cradantials	Q Search all 100+ APIs
	oredentidio	Popular APIs
		Google Cloud APIs Compute Engine API Google Cloud Machine Learning BigQuery API Vision API Cloud Starstore API Speech API Cloud Datastore API Translation API Cloud ONS API Machine Learning Engine API Cloud ONS API Machine Learning Engine API
		Google Maps APIs Google Maps Android API Google Maps SDK for IOS G Suite APIs Drive API Calendar API Google Places API for Android Google Places API for Android Sheets API Google Places API for IOS Google Apps Marketplace SDK Google Maps Roads API Google Maps Roads API Admin SDK X More X More
		Mobile APIs Social APIs Google Cloud Messaging L ² Google + API Google Play Game Services Bioger API Google Play Developer API Google + Rages API Google Places API for Android Google + Domains API
<1		YouTube APIs YouTube Data API YouTube Analytics API

9. Click the API Manager link to open the API Manager page. The API Manager will turn on the Google Calendar API.

API Manager Page



10. Click the Calendar API link to enable the API.

Starting the API Web Service

API	APIs & services	← Google Calendar API ► ENABLE
	Dashboard	
出	Library	About this API The Google Calendar API lets you manage your calendars and events.
0-	Credentials	······································
		Using credentials with this API
		Accessing user data with OAuth 2.0 You can access user data with this API. On the Credentials page, create ar can access user data. Include that client ID when making your API call to (

API Web Service – Enabling

•	Google Calendar API
	About this API
	The Google Calendar API lets you manage your calendars and events.
	Using credentials with this API
	Accessing user data with OAuth 2.0
	You can access user data with this API. On the Credentials page, create an OAuth 2.0 client ID. A client ID requests user consent so that your app can access user data. Include that client ID when making your API call to Google. Learn more

API Web Service – Enabled

≡	Google APIs SusionInt	tegration 👻	۹
API	APIs & services	← Google Calendar API ■ DISABLE	
¢	Dashboard	A To use this API you may need credentials. Click "Create credentials" to get started	4
Ш	Library	To use this Art, you may need credentials, once credentials to get stated	u.
0-	Credentials	Overview Quotas	
		About this API	
		All API versions 🔹 All API credentials 👻 All API methods 👻	
		Traffic By response code 👻	
		Requests/sec (1 min average)	

11. Click **Enable** to start the Google Calendar API web service. Once the web service is enabled, the button name changes to **Disable**.

Set Up Security

This section provides information on how to set up security.

1. Reopen the **Google Developers Console** menu using the process described in the "Activate the Google Calendar API for the Domain" section on page 2.

Create Credentials Link

=	Google APIs Fus	nIntegration - Q
API	APIs & services	Credentials
\$ #	Dashboard Library	Credentials OAuth consent screen Domain verification
0-	Credentials	APIs Credentials You need credentials to access APIs. Enable the APIs you plan to use and then create the credentials they require. Depending on the API, you need an API key, a service account, or an OAuth 2.0 client ID. Refer to the API documentation for details. Create credentials

2. Click the **Create credentials** link to open the **Credentials** page.

Credentials Page

Crede	ntials
ou nee se and PI, you D. Refe Create	ed credentials to access APIs. Enable the APIs you plan to I then create the credentials they require. Depending on the I need an API key, a service account, or an OAuth 2.0 client I to the API documentation for details.
API k Ident	ey ifies your project using a simple API key to check quota and access
ΟΔut	h client ID acts user concept so your app can access the user's date
Requ	ests user consent so your applican access the user's data
Requ Servi Enab	ce account key les server-to-server, app-level authentication using robot accounts

3. From the **Credentials** page, the user can access the service accounts that Crestron Fusion will use to access the Google Calendar API. Click the **Service account key** link to open the **Service accounts** page.

Service Accounts Page – Service Accounts Do Not Exist

Service Accounts		E + PERMISSIONS
Service accounts for project "Fus	ionIntegration" d service identity such as code running on Com	nute Engine VMs. Ann Engine agos or systems runging outside Google. Learn more
Q. Find a service account	a section normally seen as seen remaining on even	nine singinine ymra, ngip singinine appla, on ay aranna rainning oaraarae soorgile, searn mare
Service account name A	Service account ID	Key ID

4. If a service account has not been created or if a service account is needed, click **Create Service Account** to open the **Create service account key** form. A service account can now be created for Crestron Fusion.

Dashboard Library Credentials Service account Service account ID Service account ID Servi

Create Service Account Key Form

- 5. Enter a name for the service account in the Service account name field.
- 6. From the **Role** field, click the **Select a role** drop-down list and then click **Project** and **Service Account Actor**.

Service Accounts Page - Service Accounts Exist

Service Accounts	CREATE SERVICE ACCOUNT	DELETE	+2 PERMISSIONS		
Service accounts for proje	ect "FusionIntegration"	na on Compute F	nnine VMs. Ann Finnine anns, or system	ms running outside Google Learn more	
Q, Find a service account	eogle jorene der nier nerning, eder als eoole reini		ngini, mili, ppp angini appa, ar ayana		
Service account name A	Service account ID			Key ID	
PusionjServiceAcct	fusionjserviceacct	@fusionintegrati	on-188214.iam.gserviceaccount.com	c83a3cd77a0bce2b7f09e4ebe249a0f0f9320600	

7. If a service account is already available, move to the next step.

Create Private Key Form



8. Click the P12 key type and then click Create to open the file download page.

NOTE: The JSON key does not work with Crestron Fusion and should not be used.

Save P12 Key Type File Download Page

Opening FusionIntegration-24770314f34b.p12
You have chosen to open:
FusionIntegration-24770314f34b.p12
which is: P12 file (2.4 KB)
from: blob:
What should Firefox do with this file?
Open with Notepad (default)
Save File
Do this <u>a</u> utomatically for files like this from now on.
OK Cancel

- 9. Click **Save File** to save the key file in a local storage folder. Note the name of the folder for later use.
- 10. Click **OK** to open the key creation confirmation form.
- 11. Return to the Service accounts page.

IAM & Admin Menu



12. Click IAM & admin and then click Service accounts.

Service Account Menu Icon

Service Accounts	TE SERVICE ACCOUNT	DELETE	+ PERMISSIONS	
Service accounts for project "FusionIr A service account represents a Google Cloud serv Q, Find a service account	ntegration" rice identity, such as code rur	ning on Compute l	Engine VMs, App Engine apps, or system	ns running outside Google. Learn more
Service account name A	Service account I	D		Key ID
I FusionjServiceAcct	fusionjserviceac	ct@fusionintegrati	on-180412.iam.gserviceaccount.com	c5a513302d7c277f4e79a9d6813da9c98f64f1a7

13. Note the email address of the service account that Crestron Fusion will use to access the Google Calendar API. The email address is used in a later step.

Share Room Accounts with Service Account

This section provides information on how to share room accounts with the service account.

NOTE: Impersonation can be used (if preferred) rather than sharing accounts. Refer to "Appendix B: Using Impersonation in Google Calendar API" on page 34.

1. Navigate to Google.com using a Google Chrome or Firefox browser.

Google.com Sign In



- 2. Verify if a green circled icon appears in the upper right-hand corner. If so, click the icon and verify if the current account in use is the administrator account noted in the "Initial Setup" section on page 1.
 - If it is not an administrator account, click **Sign out** and move to step 3.
 - If it is an administrator account, move to step 5 and sign in with your Google account.

Account Sign In



3. Click Sign in to sign in as an administrator.

Select an Administrator Account



4. From the list, select the administrator account noted in the "Initial Setup" section on page 1.

Account Sign In Screen



5. From the **Sign in with your Google Account** section, enter your password and click **Sign in**.

Grid Icon



6. Once logged in, click the grid icon to open the Google Application menu.

Calendar Icon



7. Click the Calendar icon to open the Google Calendar application.

Google Calendar Application

(i) 🔒 https://calendar.g	oogle.com/ca	alendar/render?tab=	wc&pli=1#main_7		C Q Search	h	☆ 自 ♥	↓ ☆ 9 ≡
Google	Searc	ch Calendar				~ Q	Matthew	III O M
Calendar	Today	< > Feb	7 – 13, 2016			Day Week Month	a 4 Days Agenda	More •
CREATE V	GMT-05	Sun 2/7	Mon 2/8	Tue 2/9	Wed 2/10	Thu 2/11	Fri 2/12	Sat 2/13
February 2016 < → SMTWTFS	10am							
31 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20	11am							
21 22 23 24 25 26 27 28 29 1 2 3 4 5	12pm							
6 7 8 9 10 11 12 ▼ My calendars	1pm							
Matthew Techman	2pm							

Google Calendar Application - Settings

Search	n Calendar					~ (ર	Ν	Matthew		0	M
Today	C > Feb 7	7 – 13, 2016			Day	Week Mo	nth	4 Days	Agenda	Mor	e •	Q -
GMT-05	Sun 2/7	Mon 2/8	Tue 2/9	Wed 2/10		Thu 2/11		Displ C C	ay Density omfortable ozv	/:		
11am								√ C	ompact			_
12pm								H	elp abs			
2pm								S	end feedba	ack		=

8. Click the gear icon, and then click **Settings** to open the **Calendar Settings** page.

Calendar Settings Page

Crestron Electronics, Inc Cale × +							
(I https://calendar.google.com/calendar/render#setting	gs-cale 🛛 🤁	Q Search	☆	ê 🛡	Ŧ	⋒	ø
Google Search Calendar		~	٩	Matthew		0	M
Calendar Settings							
General Calendars Mobile Setup Labs							
« Back to calendar							
My Calendars Calendars I can view and modify							
CALENDAR		SHOW IN LIST all none	NOTIFICATIONS	SHARING			
<u>Matthew Techman</u>		\checkmark	Edit notifications	<u>Shared: E</u> <u>settings</u>	dit		
Displays birthdays of people in Google Contacts and optionally ' from Google+. Also displays anniversary and other event dates f Contacts, if applicable.	Your Circles' rom Google						
■- <u>Conference Room 201</u>			Edit notifications	<u>Shared: E</u> settings	<u>dit</u>	Unsub:	<u>scribe</u>
I Techman Room Resource 001			Edit notifications	<u>Shared: E</u> settings	<u>dit</u>	<u>Unsub</u>	<u>scribe</u>
I Techman Room Resource 002			Edit notifications	<u>Shared: E</u> settings	<u>dit</u>	Unsub:	<u>scribe</u>
■ <u>Techman Room Resource 003</u>			Edit notifications	<u>Shared: E</u> settings	dit	<u>Unsub</u>	<u>scribe</u>
⊞ Tasks		\checkmark					
Create new calendar Import calendar Export calendars	Unsubscribe: You normally.	will no longer hav	ve access to the c	alendar. Oth	er peo	ple can s	still use
Other Calendars Calendars I can only view				Browse	interes	sting cal	lendars
CALENDAR		SHOW IN LIST all none	NOTIFICATIONS				
GApps-Cal Admin Release Google Apps feature releases for the Admin console, tools, and	APIs.		Edit notifications			Unsub	scribe

- 9. Click the Calendars link to view the room calendars.
- 10. Review the room calendars to integrate with Crestron Fusion. There should be a calendar for each physical room to be integrated with Crestron Fusion.
- 11. If no room calendars are shown or more are needed, refer to "Appendix A: Creating Room Resources" on page 31, for more information.

NOTE: Typically, room calendars are shared with the service account, as discussed in the "Set up Security" section on page 7. However, some customers prefer to allow the service account to impersonate a user with elevated privileges. If impersonation is needed, refer to "Appendix B: Using Impersonation in Google Calendar API" on page 31 and skip step 5 in that section.

Google Search Calendar	V Matthew	
Conference Room 201 Details Calendar Details Share this Calendar Edit notifications Trash « Back to calendar Save Cancel		
Share this calendar with others		
Make this calendar public Learn more	See all event details 👻	
Share this calendar with everyone in the organization Crestron Electronics, Inc.	See all event details	
Share with specific people		
Person	Permission Settings ②	Remove
1218.iam.gserviceaccount.com	Make changes to events Add Person	
mtechman@crestron.mygbiz.com	Make changes AND manage sharing	
"Conference Room 201" <crestron.mygbiz.com_3133373936303433353339@resource.calendar.google.com></crestron.mygbiz.com_3133373936303433353339@resource.calendar.google.com>	Make changes to events	Ē
« Back to calendar Save Cancel		

- 12. To share calendars with the service accounts that Crestron Fusion will use to access the Google Calendar API, complete the steps below on each room calendar to be integrated with Crestron Fusion:
 - a. Click the room name link to open the **Room Details** page.
 - b. Click the Share this Calendar link to open the sharing area.
 - c. Enter the service account e-mail address (from the "Set up Security" section on page 7) into the **Person** field, from the **Share with specific people** section.
 - d. Click Make changes to events from the Permission Settings drop-down list.
 - e. Click **Add Person**. Note down the e-mail address of the room which will be used later in this document.
 - f. Click Save.

Set Up Crestron Fusion to Access the Google Calendar API

This section describes how to configure Crestron Fusion to access the Google Calendar API. The system-wide security settings will be configured using data from the "Configure the Google Calendar API" section on page 2. This section also includes instructions on how to link a room represented by Crestron Fusion to a Google Calendar.

Upload a Private Key

This section provides information on how to upload a private key.

1. Navigate to the Crestron Fusion Configuration Web Client.

Crestron Fusion Configuration Web Client - Settings: Google Form

Crestron Fusion ■	Settings: Google
Servers Configuration Backfill General General Configuration Ceneral Ceneral Ceneral Ceneral Ceneral Ceneral Ce	Service Account Name: Currently Loaded Key: Upload New Key: Browse No file selected. Google Token Timeout : 3660 (seconds) Google API Root URL: https://www.googleapis.com/calendar/v3 Google OAuth Audience: https://accounts.google.com/o/oauth2/token Google OAuth Scope: https://www.googleapis.com/auth/calendar

- 2. Click Scheduling and then click Google to open the Settings: Google form.
- 3. Click Browse to open the File Upload dialog box.

File Upload Dialog Box with Key File

🥹 File Upload						23
○○ - ¹ / ₂ + Co	mputer	► OS (C:) ► keys	-	 ✓ ✓		Q
Organize 🔻 Ne	w folder				-	
🔆 Favorites	<u> </u>	Name	Date modified	Туре	Size	
🧮 Desktop	Ξ	FusionIntegration-8b9ca8e756c9.p12	2/11/2016 8:48 PM	P12 File		3 KB
🐌 Downloads						
📃 Recent Places						
🧫 Desktop						
🥽 Libraries						
📄 Documents						
👌 Music						
📔 Pictures						
📄 Subversion						
📕 Videos	-					
	File nan	ne: FusionIntegration-8b9ca8e756c9.p12		✓ All Files (*.*)		•
				Open		Cancel

4. Navigate to the location where the key file was stored. Locate and select the private key file, and then click **Open**.

Settings: Google Form

Settings: Google	
Service Account Name:	fusionserviceaccount.
Currently Loaded Key:	
Upload New Key:	Browse FusionIntegration-8b9ca8e756c9.p12
Google Token Timeout :	3660 (seconds)
Google API Root URL:	https://www.googleapis.com/calendar/v3
Google OAuth Audience:	https://accounts.google.com/o/oauth2/token
Google OAuth Scope:	https://www.googleapis.com/auth/calendar

- 5. Enter the Service Account email address in the Service Account Name field that was entered in step 13 on page 10.
- 6. Click Save.

Configure Rooms in Crestron Fusion to Use Google Calendar API

This section provides information on how to configure rooms in Crestron Fusion to use the Google Calendar API.

1. Do the following for each room represented by a Google calendar.

Crestron Fusion Setup Web Client

Crestron Fusion®		🕂 Open 👫 👰 🛞 (0) (
Security Utility Pricing	+ Add V Symbol Discover	🛷 Apply Attributes 🥒 Edit 🍵 Delete
un-associated Objects ⊡	Type Carlos Pockleigh	Name

- a. Navigate to the Crestron Fusion Setup Web Client, select the node, and then add the room.
 - Click the Add drop-down list (if the room has not been created), and then click Add Room.
 - Click the **Room** node if the room has already been created.

Room Details Tab

Edit - Room - 'Conference Room 201'								
Room Details	Scheduling D	etails	Address	Custom Properties	Symbols	Assets	Actions	People
					57.115015			
	Alias:			Lookup Room Nan	ie			
	Name:	Confer	ence Room 20	01				¥
	Description:							
	Server Group:	Defau	lt Group					*
	Location:							
	Time Zone:	(UTC-0	05:00) Eastern	Time (US & Canada)				•
	eControl URL:	http://	'					
	WebCam URL:	http://	,					
			nherit Geogra	phic Coordinates				
				* denotes	a required fie	Id		
				Save & Clo	clo	se		

b. Complete the first page of the **Room Details** tab, if adding a new room.

Scheduling Details Tab

⑦Edit - Room - 'Conference Room 201'
Room Details Scheduling Details Address Custom Properties Symbols Assets Actions People
Server Access: Google
Calendar Email Address: crestron.mygbiz.com_shkk2nvh7e1ipq670m1c4hddi8@group.calendar.google.com*
Verify Mailbox Setting

- c. Click the Scheduling Details tab, and then click Google from the Server Access drop-down list.
- d. Enter the email address of the first room entered.

Verify Mailbox Setting

③Edit - Room - 'Co	onference Room 201'							
Room Details	Scheduling Details	Address	Custom Properties	Symbols	Assets	Actions	People	
	Server Access: Calendar Email Address:	Google crestron.my Verify M.	▼ gbiz.com_shkk2nvh7e1i ailbox Setting	pq670m1c4h	ddi8@group	.calendar.goo	ogle.com	×

e. Click **Verify Mailbox Setting** to ensure the room is configured for proper integration with Crestron Fusion.

If the room is configured properly, the **Verify Mailbox Setting** message box displays.

Verify Mailbox Setting Message Box

•	dit - Room - 'Co	onference Room 201'							
	Room Details	Scheduling Details	Address	Custom Properties	Symbols	Assets	Actions	People	
		Server Access:	Google	•					
		Calendar Email Address:	crestron.my	gbiz.com_shkk2nvh7e1i	pq670m1c4ho	ddi8@group	.calendar.go	ogle.com	×
				111 o est					
			Verify M	ailbox Setting					
				Verify Mailbox Setti	ing		¢		
				The mailbox settings	were success	fully	_		
				verified.					
						ОК			
							11.		

f. Click OK.

Room Details Tab

Room Details	Scheduling D	etails Addres	s Custom Properties	Symbols	Assets	Actions	People	
	Alias:		Lookup Room Nam	іе				
	Name:	Conference Room	n 201				*	
	Description:	Main Meeting Ro	om for 2nd Floor				.11	
	Server Group:	Default Group					• *	
	Location:							
	Time Zone:	(UTC-05:00) Eas	tern Time (US & Canada)				•	
	eControl URL:	http://						
	WebCam URL:	http://						
		🗆 🗖 Inherit Geo	graphic Coordinates					

- 2. Click the **Room Details** tab. If creating a new room, fill in the required fields (shown with red asterisks).
- 3. Repeat the above steps for the remaining room email addresses entered on page 15.
- 4. Click Save & Close after adding email addresses for the rooms.
- 5. Perform a test of the synchronization between the Google and Crestron Fusion calendars as follows:

Administrator Sign In

① https://www.google.com/?gws_rd=ssl	C Q Search		☆ 自	01	· 🏫	9	≡
		Matthew	Mail Ima	ges	: C		Λ
		This account is manag Learn more	ged by crestro	on.mygbiz	.com.		
			Matthew 1 mtechman	Techmar @crestro	ı n.mygbi	z.com	
C	- e I	Change	Privacy My Acco	ount			
Goo	gle	Add account			Sign	out	

a. Navigate to Google.com and sign in as an Administrator. Refer to the "Initial Setup" section on page 1.

Grid Icon



b. Click the grid icon to open the Google Application menu.

Calendar Icon



c. Click the Calendar icon to open the Google Calendar page.

Google Calendar Page

Crestron Electronics, Inc.	× +		net to the based	Name and Street and	
(i) 🔒 https://calendar.g	joogle.com/ca	lendar/render?tab=wc	#main_7		C Q S
Google	Searc	h Calendar			
Calendar	Today	< > Feb 7 -	13, 2016		
CREATE V	GMT-05	Sun 2/7	Mon 2/8	Tue 2/9	Wed 2/10
▼February2016 〈 〉 SMTWTFS	5am				
31 1 2 3 4 5 6 7 8 9 10 11 12 13	6am				
14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 1 2 3 4 5	7am				
6 7 8 9 10 11 12	8am				
Matthew Techman	• 9am				

d. Select one room created in the previous section. This will display the Room's calendar in the UI.

e. Double-click any time slot (after the current time) to open the Add Meeting form.

Add Meeting Form

Goog	C Search Calendar
4	SAVE Discard
Test Meetir	ng 001
2/12/2016	10:00am to 11:00am 2/12/2016 Time zone
🔲 All day 📃 I	Repeat
Event details	Find a time
Where	Enter a location
Video call	Join meeting: crestron-mygbiz Change name I Remove
Calendar	Conference Room 201

f. Enter a title for the meeting and then click **Save**.

Booked Meeting on Google Client Calendar

Google	Search Cale	endar				~ Q			Ν	/latthew
Calendar	Today 🗸 >	Feb 7 – 13,	Added Test 2016	Meeting 001 on Fri Feb	12, 2016 at 10am. <u>Undo</u>	Day	Week	Month	4 Days	Agend
CREATE V	GMT-05	un 2/7	Mon 2/8	Tue 2/9	Wed 2/10	Thu 2	/11		Fri 2/12	
✓ February 2016 < > S M T W T F S 31 1 2 3 4 5 6	9am									
7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27	10am							10 – 11 Test Me	eting 001	

g. A message indicating the meeting was created should appear along with the meeting displayed on the room's calendar.

Crestron Fusion Web Client Menu - RoomView® Monitoring

RoomView [®] Monitoring 🖿	Configuration 📑	RoomView Admin
Energy Management 📑	Setup 📑	4/20/2016
Reports & Analytics	Online Help 📑 About ?	

h. Open the Crestron Fusion Web Client and click the **RoomView® Monitoring** link.

Crestron Fusion Calendar Showing Meeting

Crestron Fusion	
≪ ■ Apply Action ~ B-™ Rockleigh ↓ L Conference Room 201	My RoomView × Fusion InSite × Assets × Rooms × Schedule × WebCam × e-Control Select room and click on your reservation to setup equipment for automatic startup. Select room and click on your reservation to setup equipment for automatic startup. Refresh Switch view: Today Go To Week View Month View Add Meeting
	Friday, February 12, 2016 10 AM Image: Conference Room 201 (Test Meeting 001) (10:00 AM - 11:00 AM) 11 AM
	12 ^{PM}

- i. From the **Schedule** tab, select the room and the date the meeting is scheduled. The meeting created in step f above should appear on the Crestron Fusion calendar.
- j. Double-click the meeting.

Meeting Details Tab

Meeting Details	Presets	Rooms	People	Recurre	nce	Capture	
Nama	Test Mesting	- 001					*
Location:	Test Meeting	9001					
Time Zone:	(UTC-05:00)) Eastern Tir	ne (US & Ca	nada)			-
Start Date/Time:	2/12/2016		0:00 AM		ŵ		
End Date/Time:	2/12/2016	[1:00 AM		ŵ		
Recurrence:	None						
Description:							~
							-
	4						
			Save & Cl	ose	Delete	Close	

k. From the **Meeting Details** tab, verify the meeting times (**Name**, **Start Date/Time** and **End Date/Time**).

Create New Meeting

Meeting Details	Presets	Rooms	People	Recurrence	Capture	
Name <mark>:</mark>	Test Meeting	g 002				*
Location:						
Time Zone:	(UTC-05:00) Eastern Tin	ne (US & Car	nada)		•
Start Date/Time:	2/12/2016	1	1:00 AM	*		
End Date/Time:	2/12/2016	1	1:30 AM	*		
Recurrence:						
Description:						
			Sav	e & Clo <mark>se 🛛</mark>	Close	
			-			

I. After the meeting is set by the Google Calendar, create a meeting in Crestron Fusion.

Google Calendar Showing Meeting Created in Crestron Fusion

Crestron Electronics, Inc.	· × +									. 0 %
(i) a https://calendar.g	joogle.com/cale	endar/render?tab=wc#r	main_7		C Q Search		☆	ê 🛡	↓ 俞	⊜ ≡
Google	Search	ı Calendar				~ Q		Matthew	::: O	
Calendar	Today	> Feb 7 – 1	3, 2016			Day Week	Month 4 Days	Agenda	More •	Q -
CREATE V	GMT-05	Sun 2/7	Mon 2/8	Tue 2/9	Wed 2/10	Thu 2/11	Fri 2/12		Sat 2/13	
✓ February 2016 < > S M T W T F S 31 1 2 3 4 5 6	9am									·····
7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27	10am						10 – 11 Test Meeting 00	1		
28 29 1 2 3 4 5 6 7 8 9 10 11 12	11am						1 <mark>1 - Test Meetin</mark> g	<u>g 00:</u>]		

m. Navigate back to the Google Calendar. The meeting created in Crestron Fusion should appear on the Google Calendar below the meeting created in step f.

Appendix A: Creating Room Resources

This section provides information on how to create room resources in Crestron Fusion.

1. Navigate to Google.com.

Google.com Sign In Page

G Google × +	and a finance in the second state of the second states.							
(i) (i) (ii) https://www.google.com/?gws_rd=ssl	C Search		☆ 1	≙	÷	⋒	9	≡
		Matthew	Mail	Images		0	M	
	1	This account is manag Learn more	ed by cr	estron.my	gbiz.co	m.		Googl (mtec
	Google	M Change	Matthew Techman mtechman@crestron.mygbiz.com Privacy My Account					
	Ougle	Add account				Sign	out	
	Google Search I'm Feeling Lucky							

2. Sign in as an Administrator.

Grid Icon



3. Click the grid icon to open the **Google Application** menu.

Admin Icon



4. Click the Admin icon to open the Google Console menu.

Google Console Menu



5. Click **Apps** to open the **Apps** page.

Google Apps Page



6. Click G Suite.

Google Apps Page - Calendar Link

Google	٩		Matth	ew	Μ
\equiv Apps > Google Apps		+	₹	?	
Services 🔺	Status				
31 Calendar Organize your schedule and share events with friends	On for everyone				0 0 0

7. Click the Calendar link to open the Settings for Calendar page.

Settings for Calendar Page

≡ Apps > Google Apps > Settings for Calendar	Ø	0	÷
Calendar ON for everyone https://www.google.com/calendar/hosted/crestron.mygbiz.com	I		
3 100% Active users in last 7 days Percent of users using this application			
Sharing settings Set global sharing policies for users' primary calendara.			
Resources Define resources that are available for users to schedule on their calendars, such as meeting rooms, projectors, company cars, or other shared equipment.			
General settings Customize your Google Calendar web address. Configure external sharing policies.			

8. Click **Resources** to open the **Resources** page.

Resources Page

G <mark>o</mark> ogl	۹.	Matthey	v	M				
≡ Apps	> Google Apps > Settings for Calendar	Ø	?					
	^ Resources							
	Resource booking I Allow users to book resources that are shared as "See only free/busy" O permissions							
	Create a new resource You can create resources users can schedule in their calendar such as conference rooms or projectors. See here how to add/manage resources to your calendar. See here how to allow users in your domain to book resources. DELETE RESOURCE(S)							
	Resource Name Resource type Description							
	GCR0001FSG ConfRoom Google Mail Conference Room #1 for FSG							

9. Click **Create a new resource** to create a new room resource.

Resources Page - Configuring a Room Resource

Google			Matthew	- 111	M
≡ Apps	> Google Apps > Settings for Calendar		ø	0	-
	^ Resources				
	Back to Resources Create Resource Fields marked (*) are required Resource Name* Conference Room 201				
	Resource type ConfRoom (Examples: conference room or projector) Description				
	All administrators can manage this resource by signing in to their own calendars.				
		DISCARD	SAVE		

- 10. Enter a **Resource Name** and **Resource type** (room name and type.) Typically the room type is ConfRoom, but any name will work.
- 11. Click Save. If the configuration is successful, the room is listed on the Settings for Calendar page.

Settings for Calendar Page – Room Resource List

≡ Apps	> Google Apps > Setting	js for Calendar	Ľ
	GCR0002	ConfRoom	Google Mail Conference Room 0002
	GCR0001	ConfRoom	Google Mail Conference Room 0001
	GCR0001QE	ConfRoom	Google Mail Conference Room #1 for QE
	Techman Room Resource 001	ConfRoom	Testing Room
	Techman Room Resource 003	ConfRoom	
	Techman Room Resource 002	ConfRoom	
	Conference Room 201	ConfRoom	

12. Click the newly created room resource to display the room details (including the email address.)

Room Details Displayed

^ Resources
« Back to Resources
Edit Resource Fields marked (*) are required
Resource Name*
Conference Room 201
Resource type
ConfRoom
(Examples: conference room or projector)
Description
Email address
crestron.mygbiz.com_3133373936303433353339@resource.calendar.google.com
Use this email address to access this resource in calendar.
Resource identifier
Use this identifier to access this resource from the API.
All administrators can manage this resource by signing in to their own calendars. 🔮

13. Note the email address of the room resource. This will be used to create a calendar.

Grid Icon



14. Click the grid icon.

Calendar Icon



15. Click the Calendar icon.

Gear Icon and Google Calendar Settings Link

				N	Aatthew		
Ĩ	Day	Week	Month	4 Days	Agenda	More *	Q -
Fri	2/12			Displa Cl Cl	ay Density omfortable ozy ompact		
				H	ettings elp abs		
				S	end feedba	ck	

16. Click the gear icon and then click **Settings** to open the **Calendar Settings** page.

Calendar Settings Page

Calendar Settings
General Calendars Mobile Setup Labs
« Back to calendar
My Calendars Calendars I can view and modify
CALENDAR
Matthew Techman
Birthdays
<u>Techman Room Resource 001</u>
I Techman Room Resource 002
I Techman Room Resource 003
I Tasks
Create new calendar Import calendar Export calendars

17. Click the **Calendars** tab and then click **Create new calendar**.

Calendar Sharing Detail Form

Share with specific people		
Person	Permission Settings 🖗 Re	emove
Enter email address	Make changes to events Add Person	
mtechman@crestron.mygbiz.com crestron.mygbiz.com administrators have "Make changes AND manage sharing" access to all calendars in the domain.	Make changes AND manage sharing	
crestron.mygbiz.com_3133373936303433353339@resource.calendar.google.com	Make changes to events 🔹 🐨	î .

- 18. Enter the e-mail address noted in step 13 above, in the **Person** field.
- 19. Select Make changes to events, from the Permission Settings drop-down list,
- 20. Click Add Person.

Create New Calendar Form

Create New Calendar	
Calendar Details	
« Back to calendar Create Calenda	r Cancel
Calendar Name:	Conference Room 201
Organization:	Crestron Electronics, Inc.
Description:	h.
Location:	e.g. "San Francisco" or "New York" or "USA." Specifying a general location will help people find events on your calendar (if it's public)
Calendar Time Zone: Please first select a country to select the right set of time zones. To see all time zones, check the box instead.	Country: United States (choose a different country to see other time zones) Now select a time zone: (GMT-05:00) Eastern Time

- 21. Enter the name of the room resource into the **Calendar Name** field. If needed, set the calendar time zone.
- 22. Click Create Calendar.

Grid Icon



23. Click the grid icon to confirm successful creation of the room resource calendar.

Calendar Settings Page

Search Calendar						۹	ſ	Matthew		0	М	
Today	oday < > Feb 7 – 13, 2016 Day Week Month						Month	4 Days	Agenda	Mor	e ▼	Q -
GMT-05	Sun 2/7	Mon 2/8	Tue 2/9	Wed 2/10		Thu 2/	11	Display Density:				
10am								c	ozy	•		
11am								✓ C	ompact			
12pm								S H	ettings elp			
1pm								L	abs			
2pm								S	end feedb	ack		
3pm												=

24. Click the gear icon and then click Settings to open the Calendar Settings page.

Calendars Settings

Calend	dar Setti	ngs	
General	Calendars	Mobile Setup Labs	
« Back to	calendar	Save Cancel	
Languag	e:	Eng	lish (US) 🗸

25. Click the Calendars link to open the Calendar Settings room list.

Calendar Settings Room List

Calendar Settings				
General Calendars Mobile Setup Labs				
« Back to calendar				
My Calendars Calendars I can view and modify				
CALENDAR	SHOW IN LIST all none	NOTIFICATIONS	SHARING	
Matthew Techman		Edit notifications	<u>Shared: Edit</u> <u>settings</u>	
Birthdays Displays birthdays of people in Google Contacts and optionally 'Your Circ from Google+. Also displays anniversary and other event dates from Goo Contacts, if applicable.	des' 🔲			
Conference Room 201		Edit notifications	Shared: Edit settings	Unsubscribe

26. Locate the newly created calendar for the room resource in the list.

- a. If the room is listed, the room resource creation was successful.
- b. If the room is not listed, review the steps in this section of the document.

Appendix B: Using Impersonation in Google Calendar API

Some customers may not want to use the opt-in model where the room shares the calendar with the service account. Instead, a second configuration option is available that will allow the service account (used by Crestron Fusion) to access the Google Calendar API to use the identity of another account.

Typically, the account that the service account impersonates has elevated privileges. With elevated privileges, the account being impersonated can read and write to the room calendar that is being shared.

NOTE: For impersonation, it is not necessary to complete the "Share Room Accounts with Service Account" section on page 11 and should be avoided.

To configure impersonation, do the following:

1. Open the **Google API Console** menu using the process described in the "Activate the Google Calendar API for the Domain" section on page 2.





2. Click the **Permissions** link to open the **Permissions** page. The user can access the service accounts Crestron Fusion will use to access the Google Calendar API.

Google Developers Console

≡ Goog	le Develop	ers Console	
Perm	issions		
Permissions	Service accounts	User accounts	GCP Privacy & Security
Permission: Changes to the belong to the pr project to grant	s for project "F se permissions affe oject. Add people, them role-based ac	usionIntegration ect your entire projec domains, groups, or ccess.	n" t and all resources that service accounts to your
Add members	Remove Q 3	Search for users, grou	ups, service accounts and domains
Role	Descr	ption	
Editor	Edit ad	ccess to all resources.	
Owner	Full ac	cess to all resources.	

3. Click the **Service accounts** link to display the services accounts list.

Service Accounts List

	Q				
Permissions					
Permissions Service accounts User accounts GCP Privacy & Security A service account represents a Google Cloud service identity, such as code running on Compute Engine VMs, App Engine apps, or systems running outside Google.					
Create service account Delete Q. Find a service ac	eount				
Service account A	Email address	Key ID	Key creation date	Options	
FusionServiceAcct	fusionserviceacct@fusionintegration-1218.lam.gservicea	ccount.com 8b9ca8e756c9ff2d8f916e5226b649ac913c2c4d 0d867caa673be5c721747045f15d59147aad4391	Feb 11, 2016 Feb 11, 2016	DwD 😂 View Client ID	

4. Click the **View Client ID** link to open the **Credentials** form. The **View Client ID** contains the service account that will use impersonation.

Credentials Form

credentials		
Download JSON Client ID for Service a	Delete account client	
Service account cl enabled on a servi	lients are created when domain-wide delegation is Manage service account.	counts
Client ID	106100277412300521421	
Service account	FusionServiceAcct fusionserviceacct@fusionintegration-1218.iam.gserviceaccount.com	
Creation date	Feb 11, 2016, 10:11:00 PM	
lame		
Client for fusionservice	acct	
Save Cancel		

- 5. Note the Client ID for use in a later step, and then click Cancel.
- 6. Navigate to Google.com and sign in as an Administrator.

Google API Console - Sign in Page

G Google × +							X
O https://www.google.com/?gws_rd=ssl	C Q Search		☆ 🖻 🛡	÷	^	9	≡
		Matthew	Mail Images		0	M)
		This account is manag Learn more	ged by crestron.my	gbiz.cor	n.	G (1	Joogle mteck
Goo	ala	M	Matthew Tech mtechman@cre Privacy My Account	man stron.m	iygbiz.c	om	
	ye	Add account			Sign ou	t	

7. Click the grid icon located at the top of the page.

Admin Icon



8. Click the Admin icon to open the Admin console menu.

Admin Console Menu



Security Link



9. Click the **Security** link to open the **Security** form.

Security Form

Basic settings Set password strength policies, enforce 2-step verification. Password monitoring Monitor the password strength by user. API reference Enable APIs to programmatically manage provisioning, reporting, or migration via custom-built or third-party applications. Set up single sign-on (SSO) Setup user authentication for web based applications (like Gmail or Calendar).		Security crestron.mygbiz.com
Password monitoring Monitor the password strength by user. API reference Enable APIs to programmatically manage provisioning, reporting, or migration via custom-built or third-party applications. Set up single sign-on (SSO) Setup user authentication for web based applications (like Gmail or Calendar). Show more	Basic settings Set password strength policie	es, enforce 2-step verification.
API reference Enable APIs to programmatically manage provisioning, reporting, or migration via custom-built or third-party applications. Set up single sign-on (SSO) Setup user authentication for web based applications (like Gmail or Calendar). Show more	Password monitoring Monitor the password streng	th by user.
Set up single sign-on (SSO) Setup user authentication for web based applications (like Gmail or Calendar).	API reference Enable APIs to programmatic third-party applications.	ally manage provisioning, reporting, or migration via custom-built or
Show more	Set up single sign-on (SS Setup user authentication for	CO) web based applications (like Gmail or Calendar).
	Show more	

10. Click the **Show more** link.

Advanced Settings Link

Basic settings Set password strength policies, enforce 2-step verification.
Password monitoring Monitor the password strength by user.
API reference Enable APIs to programmatically manage provisioning, reporting, or migration via custom-built or third-party applications.
Set up single sign-on (SSO) Setup user authentication for web based applications (like Gmail or Calendar).
Advanced settings Manage advanced security features such as authentication, and integrating Google Apps with internal services.

11. Click the Advanced settings link.

Manage API Client Access Link

Advanced settings			
Authentication	Manage OAuth domain key Allows admins to access all user data without needing login credentials.		
	Federated Login using OpenID Allows users to sign-in to 3rd party websites using their crestron.mygbiz.com account, without giving away their credentials.		
	Manage API client access Allows admins to control access to user data by applications that use OAuth protocol.		

12. Click the Manage API client access link to open the Manage API client access page.

Manage API Client Access Page

≡ Security	
Manage API client access Developers can register their web applications and	other API clients with Google to enable access to data in Google services like Calendar. You can authorize these registered
Authorized API clients	The following API client domains are registered with Google and authorized to access data for your users.
Client Name)6100277412300521421 Example: www.example.com	One or More API Scopes

- 13. Enter the following:
 - Client Name: Enter the Service Account Name from the Credentials form.
 - One or More API Scopes: Enter the following URL: https://www.googleapis.com/auth/calendar.
- 14. Click Authorize.

Manage API Client Access Page Displaying Service Accounts

≡ Security	
Manage API client access Developers can register their web applications and other A	PI clients with Google to enable access to data in Google services like Calendar. You can authorize these registered clients
Authorized API clients	The following API client domains are registered with Google and authorized to access data for your users.
Client Name Example: www.example.com	One or More API Scopes Authorize Example: http://www.google.com/calendar/feeds/ (comma-delimited)
993169428491.apps.googleusercontent.com	Calendar (Read-Write) https://www.googleapis.com/auth/calendar
106100277412300521421	Calendar (Read-Write) https://www.googleapis.com/auth/calendar

15. Confirm that the service account was added to the list. At this point the service account is authorized to access any account.

Crestron Fusion Web Client - Configuration



16. Open the Crestron Fusion Web Client and click **Configuration** to open the **Configuration** page.

Configuration Page

Crestron Fusion	
* !	Settings: All
Servers Configuration Backfill	Name
General	ActionLookaheadMinutes
PinPoint - Porwarding - Web	AllowBadCertificates
Media API	AllowDuplicateAlias
Advanced	APIEnabled
	APIEncryption
	APIPasscode
	APISecurity
	APITokenTimeout
	AssetStubColor
	AutoDiscoveryList
	AutoDissouonuBestagol
	Add

17. Click All from the tree menu and then click Add to open the Add Config Entry window.

Google API Sign In Page

۹.	Matthew		0	M
This account is mana Learn more	aged by crestron.my	gbiz.co	n.	
Change	Matthew Techn mtechman@cre Privacy My Account	nan stron.n	nygbiz.c	com
Add account			Sign ou	ıt

- 18. Determine the user account to be used for impersonation. Typically the admin account is used. However, an account with elevated privileges can be used.
- 19. Obtain the email for this account from the Google API Sign In page.

Add Config Entry Page

Add Config Er	itry	ĸ
Name:	<mark>GoogleImpersonatio</mark> n	
Type:	VarChar250 🔻	
	Google Impersonation User	
Description:		
Value:	mtechman@crestron.i	
	S <mark>ave & Close</mark> Close	

- 20. In the Add Config Entry page, enter the following:
 - Name: GoogleImpersonationUser
 - Type: VarChar250
 - Description: Google Impersonation User
 - Value: Email address (from step 17 above)
- 21. Click Save & Close.
- 22. The service account is now set to impersonate the account with the elevated privileges noted above. Run the tests at the end of section on page 15 to confirm the impersonation has been configured properly.

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Integration Guide – DOC. 7886E (2046093) 12.17 Specifications subject to change without notice.